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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,521	07/31/2001	Heather Noel Bean	10011707-1	3650

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

VILLECCO, JOHN M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. .

09/919,521

Applicant(s)

BEAN ET AL.

Examiner

John M. Villecco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☒ Claim(s) 6-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/31/01.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. Regarding claim 6, applicant recites the limitation of the image sensor being photographic film. However, in claim 1, from which claim 6 depends, applicant describes the image sensor as having a "plurality of pixel elements". It is unclear from the specification how the image sensor can be composed of both pixel elements and photographic film. Therefore, since an image sensor cannot have both pixels and film, a person of ordinary skill in the art would not be enabled when making or using the invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. Claim 10 recites the limitation "all shutter elements in said shutter device" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no mention of a shutter device in the previous claims. For examination purposes it will be assumed that the applicant meant to make reference to shutter elements previously in the claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzu et al. (Japanese Publ. No. 10-290389).**

9. Regarding *claim 7*, Suzu discloses a camera in which several images captured at different focal distances are combined to form an image that is substantially in focus for all distances. As disclosed in paragraphs 0026-0029 a first focus depth is sent to the camera an image is captured. Then the lens (22) is moved to a second focal depth and a second image is captured. Inherently the image capture would be initiated before capture by the CCD (20). Furthermore, different parts of the image are extracted and synthesized to form a highly focused image. Although full images are captured, each image capture obtains an eventual subset of pixel elements at each focus depth. An official translation has been ordered for use in subsequent office actions.

10. With regard to *claim 11*, since the claim is so broad, Suzu can be read on the claim. Suzu discloses capturing several images, extracting in focus portions and combining them to form a

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highly focused image. Suzu discloses capturing a portion of the final synthesized image, thus Suzu discloses capturing partial images.

11. As for *claim 12*, Suzu discloses that complete images are captured and then the focused portions of the images are extracted and synthesized. See the abstract.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. **Claims 13 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato (U.S. Patent No. 6,765,618).**

14. Regarding *claim 13*, Sato discloses a camera in which a user can select and easily see the object which is being focused. More specifically, Sato discloses a camera which includes a CCD (38), a release switch for (15) for initiating an image capture, a manual selection switch (18) for selecting an object to focus on, and a system control circuit (51) for controlling the operation of the camera. Using the release switch (15) a user initiates a distance measurement in which distances from each pixel to the object to be photographed are measured by the CCD (38) (col. 7, lines 29-50). Using the manual selection switch (18), the user is able to select the object to be photographed (col. 8, lines 43-65). If a second subject is selected a second image would be photographed. Although, it appears that all of the pixels of the image sensor are obtained, the

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subset of pixels corresponding to the first and second subjects are also captured, thus meeting the last two limitations of the claim since the limitations are so broad.

15. As for *claim 15*, as discussed above the user uses the manual selection switch (18) to select which object to focus on.

16. With regard to *claim 16*, as mentioned above the user uses the manual selection switch (18) to select which object to focus on. This is done by featuring pixels within a certain focus range on a display device. Since the user is able to select the featured pixels using the manual selection switch, the user is positioning an object indicia on an object. Furthermore, just by moving the manual selection switch to the desired subject, the user is selecting the object using the manual selection switch (18). See column 8, lines 29-65.

17. Regarding *claim 17*, Sato discloses that the after obtaining the distance measurements a histogram of each of the measured distances is generated. The generation of this histogram is considered an image analysis procedure. Furthermore, the object designations are automatically generated since the user is able to scroll to a plurality of different objects without having to specifically designate the object focus areas. See column 7, lines 35-51.

18. As for *claim 18*, Sato discloses that the first and second objects have different focus depths.

19. With regard to *claim 19*, the release button (15) is interpreted to be the shutter button.

20. Regarding *claim 20*, as shown in Figure 12B, after a new subject is selected the lens is moved to the new focal point (step 211). Therefore, the lens is moved before capture of the second object image.

***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzu et al. (Japanese Publ. No. 10-290389) in view of Kodama et al. (Japanese Publ. No. 10-108057).**

23. Regarding *claim 8*, as mentioned above in the discussion of claim 7, Suzu discloses all of the limitations of the parent claim. However, Suzu fails to explicitly disclose the use of a rangefinder to obtain the first and second focus depths. It appears that Suzu is merely reading out different focal distances from memory. Kodama, on the other hand, teaches that it is well known in the art to obtain different focus depths using a rangefinder. More specifically, Kodama teaches the ability to capture several images under different focus values. Using a multiple range finding circuit (4) several image ranges of the object are determined and several images under different focus conditions are obtained. Instead of reading out focal distances from memory, using a rangefinder to obtain focal distances would be beneficial so that the subject is sufficiently focused in the images. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a rangefinder to obtain subject distances so that highly accurate focal distances are obtained.

24. **Claim 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzu et al. (Japanese Publ. No. 10-290389) in view of Omata et al. (U.S. Patent No. 5,877,809).**

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25. Regarding **claim 9**, as mentioned above in the discussion of claim 7, Suzu discloses all of the limitation of the parent claim. However, Suzu fails to explicitly disclose the obtaining step generates a two-dimensional array of focus depth measurements. It appears that Suzu merely discloses reading out focal distances from a memory. Omata, on the other hand, discloses that it is well known in the art to obtain a two dimensional array of focus depth measurements when determining an object on which to focus. More specifically, Omata discloses a camera that performs a pre-scan to determine the distance from the camera of several areas within the image. As discussed in column 5, lines 15-33, Omata discloses that for each subdivision of the image a distance is detected. This serves as a highly effective way of obtaining distances and focal distances when capturing an image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate focal depths for a two dimensional array of the captured image so that highly accurate focal distance information is obtained.

26. As for **claim 10**, as mentioned above in the discussion of claim 7, Suzu discloses all of the limitation of the parent claim. However, Suzu fails to explicitly disclose capturing a pre-image to perform image analysis on in order to determine an exposure depth of the one or more regions. Omata, on the other hand, discloses that it is well known in the art to perform a pre-exposure in order to determine distances to an object for several regions of an image. As mentioned above, Omata discloses a camera that performs a pre-scan to determine the distance from the camera of several areas within the image. As discussed in column 5, lines 15-33, Omata discloses that for each subdivision of the image a distance is detected. Furthermore, it is inherent that the imager of Omata would inherently include a shutter element that would be opened. This serves as a highly effective way of obtaining distances and focal distances when



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capturing an image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate focal depths for a two dimensional array of the captured image so that highly accurate focal distance information is obtained.

***Allowable Subject Matter***

27. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

28. The following is a statement of reasons for the indication of allowable subject matter:

Regarding *claim 14*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that the step of accepting object designations comprises designating a grouping of shutter elements corresponding to an object.

29. **Claims 1-5 are allowed.**

30. The following is an examiner's statement of reasons for allowance:

31. Regarding *claim 1*, the primary reason for allowance is that the prior art fails to teach or reasonably suggest an electronically actuatable shutter device comprising a plurality of individually addressable and actuatable shutter elements, and a processor for controlling a focus depth of the lens apparatus and selectively actuating particular shutter elements of the shutter device associated with each of a plurality of focus depths during image capture.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (For either formal or informal communications intended for entry. For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

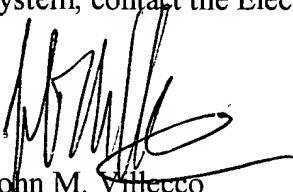
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday-Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John M. Vilecco  
December 6, 2004



AUNG MOE  
PRIMARY EXAMINER